

REMARKS

In the Office Action dated June 3, 2005, claims 1-25 are pending in the application. Claims 1-19, 21, 22, 24 and 25 have been withdrawn from consideration as drawn to non-elected subject matter. Claims 20 and 23 are under examination and are rejected under 35 U.S.C. §112, first paragraph, for allegedly lacking enabling support. Claims 20 and 23 are rejected under 35 U.S.C. §112, second paragraph. The Examiner has also objected to the specification for certain typographical errors.

This Response addresses each of the Examiner's rejections. Applicants therefore respectfully submit that the present application is in condition for allowance. Favorable consideration of all pending claims is therefore respectfully requested.

The specification has been objected to for certain typographical errors. Applicants have amended the specification to correct the errors. Withdrawal of the objection is therefore respectfully requested.

Claims 20 and 23 are rejected under 35 U.S.C. §112, second paragraph. Specifically, the Examiner indicates that the preamble of the claims recites screening for "an agent", whereas the method steps recite "molecules". Furthermore, the Examiner contends that the claims are incomplete and omit essential steps, and recommends adding a clause at the end of the claims to reflect the preamble.

In response, Applicants have amended the claims to replace the term "an agent" in the preamble with the term "a molecule". Applicants have also added a clause at the end of the claims to reflect the preamble. As such, the rejection under 35 U.S.C. §112, second paragraph, is overcome. Withdrawal of the rejection is therefore respectfully requested.

Claims 20 and 23 are rejected under 35 U.S.C. §112, first paragraph, for allegedly lacking enabling support. The Examiner acknowledges that the specification is enabling for methods of identifying agents that inhibit degradation of proteins containing a SOCS-box. However, the Examiner contends that the specification does not provide enablement for methods of identifying agents that inhibit degradation of proteins without a SOCS-box. According to the Examiner, it is unpredictable to those skilled in the art what proteins other than those containing a SOCS-box of SEQ ID NO: 4 would be affected by inhibiting the SOCS-box/elongin interaction.

Applicants respectfully submit that the specification provides ample guidance with respect to the claimed methods insofar as degradation of proteins without a SOCS-box is concerned. The specification discloses that SOCS-box-containing proteins form a family of adaptor proteins which terminate cell signaling by targeting critical molecules for intracellular degradation. See , e.g., page 2, line 30 to page 3, line 2. According to the specification, the SOCS box in proteins facilitates the presentation of proteins that are bound to the SOCS box to the ubiquitination and/or proteasomal compartments via an interaction with elongin B or elongin C. See page 2, lines 28-29; and page 34, line 19 through page 36, line 4. Clearly, proteins presented by SOCS-box-containing proteins for intracellular degradation bind to SOCS-box-containing proteins, but do not necessarily contain a SOCS-box themselves. In this regard, the specification provides examples of proteins that do not contain a SOCS box, but bind to SOCS-box-containing proteins, i.e., JAKs (signaling molecules that bind to SOCS-1 and SOCS-3). See page 10, lines 14-23. The specification also describes how to analyze the interactions among SOCS-box-containing proteins, elongins, and signaling molecules that bind to SOCS-box-

containing proteins; and how to determine whether the interactions are direct or indirect. See page 36, line 17 to page 37, line 7, for example.

In support of the enablement of the specification, Applicants are providing herewith a Declaration of Dr. Nicos A. Nicola under 37 C.F.R. §1.132. It is Dr. Nicola's opinion that the specification provides ample guidance with respect to the claimed methods insofar as degradation of proteins without a SOCS-box is concerned. Paragraph 5 of the Declaration. In particular, Dr. Nicola stated that it is his opinion that based on the present teaching, the skilled artisan would be able to readily identify proteins, including proteins that do not contain a SOCS-box, that interact with a SOCS-box-containing protein for targeted intracellular degradation; and to identify agents that inhibit or enhance the interaction between SOCS-box-containing proteins and elongin B/C, and further determine whether such agents inhibit or promote degradation of proteins without a SOCS-box that bind to a SOCS-box-containing protein. Paragraph 8 of the Declaration.

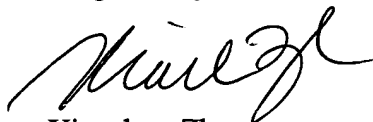
Dr. Nicola provided several articles (**Exhibits B-E**) that have been published subsequent to the filing of the present application, which demonstrate intracellular degradation of several signaling molecules, all without a SOCS-box, through interactions with SOCS-box-containing proteins. Dr. Nicola discussed the findings of each of the articles (Paragraphs 10-12), and concluded that the articles have confirmed the basis of the methods presently claimed, i.e., SOCS-box-containing proteins act as adaptor proteins which target critical molecules for intracellular degradation, including degradation of molecules that do not contain a SOCS-box. Paragraph 13 of the Declaration. Dr. Nicola further stated that these articles provide additional support for the notion that the skilled artisan would be able to readily identify proteins that interact with a SOCS-box-containing protein for targeted intracellular degradation; and that the

skilled artisan would be able to identify agents that inhibit or enhance the interaction between SOCS-box-containing proteins and elongin C, and further determine whether such agents inhibit or promote degradation of proteins that bind to a SOCS-box-containing protein.

Accordingly, Applicants respectfully submit that those skilled in the art would be able to practice the presently claimed methods without undue experimentation. As such, the enablement rejection under 35 U.S.C. §112, first paragraph, is overcome. Withdrawal of the rejection is therefore respectfully requested.

In view of the foregoing amendments and remarks, it is firmly believed that the subject application is in condition for allowance, which action is earnestly solicited.

Respectfully submitted,

A handwritten signature in black ink, appearing to read 'Xiaochun Zhu', is written over the typed name.

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Encls.: Declaration of Dr. Nicos A. Nicola (with Exhibits A-E attached thereto)